Abstract

Title: Using of SM system for people with spinal cord injury

Objectivities: The objective of this work was to choose and modify exercises suitable for people with spinal cord injury and to practice them in the Centrum Paraple. The next goal was to determine if the SM system is eligible as health exercise and compensation of all day sitting for people with spinal cord injury. The other objective was to compare results of people with spinal cord injury with results of healthy group to determine if they react the same or different.

Methods: 8 probands, 3 women and 5 men, 5 quadriplegics and 3 paraplegics, with the average age 54, participated in ten 50 minutes lessons. Within the research the data was acquired with opening examination, opening questionnaire, final questionnaire and interview and observation during each lesson. The pain of the musculoskeletal system and its improvement, reactions of probands to SM system and subjective evaluation of muscle involvement while exercising was determined. Also, the control group of healthy woman was established, who completed one questionnaire, witch data was collated with the data of the last questionnaire for probands.

Results: We successfully modified exercises of SM system for individuals with spinal cord injury. Each proband adopted the correct form of movement and they perceived effective muscle engagement. Careful and ongoing correction of exercises was necessary. Based on the results of questionnaires we can assume that individuals with spinal cord injury have positive response towards this exercises and it helps them to strengthen and relax muscles and to stabilize the core. In contrast to the group of healthy women, there was no significant difference in subjective perception of exercise only the functional stabilization of the core given by the height of lesion. It can be assumed that SM system is one of the suitable methods for people with spinal cord injury as compensative and health exercise.

Key words: SM system, SPS system, MUDr. Smíšek, health and compensative exercise, spinal cord injury, paraplegia, quadriplegia